

**Objectives:** To determine if receipt of adjuvant treatment after surgical staging for high intermediate-risk endometrial cancer affects progression-free survival (PFS) or overall survival (OS) in women with recurrent disease.

**Methods:** After obtaining IRB approval, a multi-institutional retrospective cohort of women with recurrent endometrial cancer diagnosed between April 1999 and November 2016 was collected. Demographic information, operative reports, pathology reports, adjuvant treatment regimens, recurrence data, and date of death were abstracted from the patients' charts. Women who met criteria for high intermediate-risk disease as defined by GOG 99 (endometrioid histology grade 2-3, >2/3 myometrial invasion, lymphovascular space invasion; patients need  $\geq 1$  risk factor (RF) if age >70,  $\geq 2$  RF if age 50-69, 3 RF if age <50) were included in the analysis. Kaplan-Meier survival analysis was used to compare PFS and OS by treatment type without adjustment. A Cox proportional hazards analysis was also performed to assess how treatment was related to OS and PFS after adjustment.

**Results:** In the study, 63 patients met the inclusion criteria. Of these, 43 (68.2%) did not receive any adjuvant treatment and 20 (31.8%) received adjuvant therapy (radiation, chemotherapy, or a combination of both). Median PFS and OS were not statistically different between the two groups: PFS (16.9 vs. 18.8 months,  $p=0.87$ ), OS (45.8 vs. 64.9,  $p=0.57$ ). After adjusting for age, LVSI, grade, and depth of invasion, there was no difference in PFS (HR 1.51, 95% CI 0.65 – 3.53,  $p = 0.8072$ ) or OS (HR 1.12, 95% CI 0.44 – 2.84,  $p=0.5702$ ) between groups.

**Conclusions:** While adjuvant therapy for patients with high intermediate-risk endometrial cancer has been shown to improve PFS, it has never been shown to benefit OS, although many providers will still give adjuvant treatment. Our study suggests that in a real-world setting, even when limiting the analysis to just those patients that recur, adjuvant therapy did not offer a PFS or OS advantage over patients who did not receive any adjuvant treatment.

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#### Poster #16

##### Fertility sparing management of endometrial hyperplasia with atypia and grade 1 endometrial cancer in young women

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**Objectives:** Endometrial cancer (EC) is the most common gynecologic malignancy in the United States, and obesity is more strongly associated with the development of EC than any other cancer in women. The increasing rate of obesity has led to an unprecedented increase in endometrial hyperplasia with atypia (AEH) and EC in reproductive age women, many of whom wish to maintain their fertility. The role of levonorgestrel (LNG) IUDs and GnRH agonists, alone and in combination, in the treatment of AEH and early stage EC, has been well studied. In this study, we assess the efficacy of a multimodal protocol combining a LNG-IUD, GnRH agonist, aromatase inhibitor, and metformin, to specifically address the dysfunctional metabolic and pro-inflammatory state, as well as the peripheral conversion of estrogen, seen in obese reproductive age women.

**Methods:** Retrospective case series of obese reproductive age women, with either AEH or Grade 1-2 EC, who were treated with our multimodal protocol at a single academic center from 2014 to 2019. Study participants underwent a baseline D&C followed by placement of a LNG-IUD, and initiation of a GnRH agonist and metformin. Once in a medically induced menopause, they were started on an aromatase inhibitor. Patients were also referred for

nutrition and exercise counseling. Serial endometrial biopsies were done at 3, 6, and 9 months—and a D&C was done at 12 months. Outcomes included response rates to the protocol at each interval and fertility rates following treatment.

**Results:** Thirteen patients were treated with our multimodal protocol—8 had AEH (61.5%), 4 had Grade 1 EC (30.8%), and 1 had Grade 2 EC (7.7%). Almost half (46%) of these patients were referred by REI after being found to have endometrial pathology while undergoing work-up for infertility. Patient age ranged from 24 to 38, and BMI ranged from 32 to 60 (median 40). At the completion of the study, 11 patients had a complete response (85%) and 2 had progressed from AEH to Grade 1 EC (15%). Both of these patients underwent hysterectomy—one had Stage 1a Grade 1 endometrioid EC and the other had AEH on final pathology. Patients were followed on average for 2.5 years following completion of treatment, and in this period 1 patient had a successful pregnancy. Three patients kept their LNG-IUD past 12 months and decided to delay childbearing in order to focus on improving their own health.

**Conclusions:** Our multimodal protocol combining a LNG-IUD, GnRH agonist, aromatase inhibitor, and metformin is highly effective in the treatment of AEH and Grade 1-2 EC in obese reproductive age women desiring fertility sparing management, when compared to the existing literature. While our multimodal protocol does facilitate uterine preservation, the women in our study likely face significant issues with fertility beyond their endometrial pathology, and the long-term fertility outcomes of these patients have yet to be determined.

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#### Poster #17

##### Lymph node micrometastases in endometrial cancer: Treatment patterns and prognosis

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**Objectives:** Sentinel lymph node (SLN) mapping has recently emerged as a surgical technique with a high degree of accuracy in detecting metastases and is emerging as a replacement to full lymphadenectomy in the staging of endometrial cancer. Data from breast cancer suggest that small tumor deposits, including micrometastases (MM) and isolated tumor cells (ITCs) may have a negative impact on survival as compared to node negative cases. However, there is limited data regarding the clinical significance of MM and ITCs in endometrial cancer. The objectives of this study were to determine the incidence of lymph node MM and ITCs in stage IIIC endometrial cancer and to compare survival outcomes.

**Methods:** We identified all patients with stage IIIC endometrial cancer who had undergone a hysterectomy, bilateral salpingo-oophorectomy and lymphadenectomy from 2010 to 2017. Demographic, clinicopathologic, treatment and outcome data were collected through the Magee Tumor registry. MMs were defined as tumor within a lymph node measuring > 0.2mm but < 2.0mm, and ITCs were defined as tumor within a lymph node measuring 0.2mm. Data were compared using descriptive statistics, including t-tests, chi-square, and fisher exact, as applicable survival analyses was performed using Kaplan-Meier and Cox proportional hazard methods. All tests were two-tailed with threshold significance level set at  $p<0.05$ .

**Results:** Of the 152 patients identified, 101 (66.4%) had IIIC1 disease and 51 (33.6%) had stage IIIC2 disease. Mean age at diagnosis was 62 (37-85), and patients had a mean BMI of 32.3 (18.0-59.4). A majority